

economy when the part fails, no durability aging of the part is required before certification emission testing. One Federal Test Procedure test shall be performed on the test vehicle in its original equipment configuration (i.e., before the aftermarket part or system is installed) and one test with an aftermarket part representative of production (as provided in paragraph (e) of this section) installed on the test vehicle. If more than one test is performed either before or after the aftermarket part is installed, then an equivalent number of tests must be performed in both configurations. The results of all tests performed with the aftermarket part installed shall be averaged and the results of all tests performed in the original equipment configuration shall be averaged for each emission constituent. The difference in Federal Test Procedure emission results between the tests with the aftermarket part installed and the test vehicle in the original equipment configuration shall be less than or equal to the certification vehicle emission margin of any and all of the certification test vehicles from the various configurations for which the aftermarket part is being certified.

(4) Evaporative emission testing. For parts determined by the part manufacturer (with appropriate technical rationale) to affect only evaporative emissions performance, at least one evaporative emissions portion of the Federal Test Procedure test shall be performed on the vehicle in its original equipment configuration and at least one with the aftermarket part installed. Both the original equipment and aftermarket part shall be aged according to paragraph (c)(5) of this section prior to testing. If more than one test is performed either before or after the aftermarket part is installed, then an equivalent number of tests must be performed in both configurations. The emission results of all tests performed before the part is installed shall be averaged and the emission results of all tests performed after the part is installed shall be averaged. The difference in Federal Test Procedure emission results between the tests with the aged aftermarket part installed and the test vehicle in the original

equipment configuration shall be less than or equal to the certification vehicle emission margin of any and all of the certification test vehicles from the various configurations for which the aftermarket part is being certified.

(5) Emission test vehicle selection: The test vehicle used must represent the “worst case” with respect to emissions of all those configurations for which the aftermarket part is being certified. The worst case configuration shall be that configuration which, having the aftermarket part installed, is least likely to meet the applicable emission standards among all those configurations on which the aftermarket part is intended to be installed as a certified aftermarket part. One of the following two methods shall be used to select the worst case emission test vehicle(s):

(i) In the first method, the selection shall be based on a technical judgment by the aftermarket part manufacturer of the impact of the particular design or calibration of a particular parameter or combination of parameters and/or an analysis of appropriate data, or

(ii) In the second alternative method, two defined worst case test vehicles shall be selected from the vehicle configurations using the following criteria:

(A) The first test vehicle is that engine family for which the largest number of parts are projected to be sold. Within that family the manufacturer shall select the configurations with the heaviest equivalent test weight, and then within that group the configuration with the largest displacement engine.

(B) The second test vehicle shall be from a different vehicle manufacturer than the first test vehicle, or if the aftermarket part applies to only one vehicle manufacturer, from a different engine family. Engine families are determined by the vehicle manufacturer or when certifying under 40 CFR Part 86. Within that group, the second test vehicle is selected from the vehicle configurations with the heaviest equivalent test weight, and then, within that group, the configuration with the largest displacement engine. If a part applies to only one engine family then only the vehicle specified in paragraph